
Heating, Air-Conditioning, and Refrigeration

HAR 1100 Fundamentals of Heating

Principles of heating; includes use of tools and precision-measuring instruments, pipefitting, soldering, brazing, and welding while demonstrating safety principles.

HAR 1101 Domestic Heating

Oil and gas-fired space heaters, unit and domestic water heaters, oil burners, warm-air and water heating systems, and coal burning equipment.

HAR 1102 Boiler Water Treatment and Corrosion Control

Boiler water treatment (external and internal systems) and component corrosion control. Water sources and characteristics and effects on heating equipment. Construction of water treatment logs, external corrosion control, and sample submission requirements.

HAR 1103 Boiler Controls and Feedwater Systems

Theory of combustion through operation of boiler controls. Repair, replacement, and adjustment of major components of a boiler control system and operation, repair, replacement, and adjustment of feed-water system components.

HAR 1104 Water and Steam Heating Systems

Operation and maintenance of low- and high-temperature water and steam heating systems.

HAR 1105 Refrigeration and Air-Conditioning Systems

Fundamental principles for operating and maintaining the following systems/components: refrigeration, pneumatic controls, dampers, air handlers, fan units, dehumidifiers, air-conditioning filters, water chillers and cooling towers, access portal ventilation systems, control center air-conditioning systems, launch duct air-conditioning systems, and missile complex air balancing.

HAR 1106 Domestic and Commercial Refrigeration

Maintenance, troubleshooting, and repair of cold storage and small commercial systems. Includes cooling towers; evaporative condensers; water pumps; air-compressing equipment with electrical, electronic, pneumatic, motor controls, and devices.

HAR 1107 Fundamentals of Air-Conditioning Systems

Operating, monitoring, and troubleshooting chilled and cooling water systems and their functions. Components include airflow, control switches, air requirements, supply dampers, exhaust and return dampers, humidity and temperature control, purge operation, overpressure control, and alarm panel.

HAR 1108 Pneumatic Controls

Control fundamentals and devices, and calibration and adjustment of controllers. Includes connecting, adjusting, and operating pressure selectors and cumulators; installation and calibration of transmitters and receiver controllers; and application of system accessories, such as airflow instruments, air driers, and sensors.

HAR 1109 Electrical and Electronic Controls

Fundamentals of electrical and electronic control operation and application. Installation, adjustment, troubleshooting, and maintenance of electrical control circuits, sensors, controllers, and control devices. Includes cybernetics and energy monitoring control systems.

HAR 1110 Environmental Systems

Principles of environmental systems; includes operation and maintenance of chillers, heat recovery systems, hydraulic cooling water systems, steam boiler systems, air handlers, exhaust fans, and purge air systems.

HAR 1111 Air-Conditioning/Refrigeration Fundamentals

Basic operation, maintenance, troubleshooting, and repair of air-conditioning and refrigeration equipment. Includes use and care of tools, fabrication of refrigeration lines, application of soldering and brazing techniques, physics, refrigeration components, accessories, and compressor checks.

HAR 1112 Coal Handling

Characteristics of coal, coal storage and burning equipment, and coal sampling under guidelines of Coal Quality Assurance Program.

HAR 1114 Steam Boiler Systems

System maintenance, operation, and identification of steam boiler types. Includes feed-water systems, fuel systems, and steam distribution systems used in boiler plant operations.

HAR 1115 Heating, Air-Conditioning, and Refrigeration Contingency Training

Heating, refrigeration, and water treatment equipment associated with contingency operations. Includes miscellaneous support equipment, international electrical systems, and contingency responsibilities of civil engineering personnel.

HAR 2100 Steam and Hot-Water Systems

Operation and maintenance of steam and high-temperature water boilers and heating plant auxiliary equipment.

HAR 2102 Refrigeration Maintenance Laboratory

Advanced installation, servicing, repair, and maintenance of ventilating, refrigeration, and air-conditioning equipment. (May be repeated for credit on various refrigeration and air-conditioning systems.)

HAR 2103 Automotive Air-Conditioning

Operation, service, inspection, and maintenance of automotive air-conditioning systems.

HAR 2104 Industrial Water Treatment

Industrial water treatment processes. Chemical treatment of industrial heating and cooling equipment water.

HAR 2105 Liquid Oxygen Storage Tank Maintenance

Operation and maintenance of liquid oxygen storage tanks. Ability to use special test equipment to analyze malfunctions, bench test, and repair storage tanks.

HAR 2106 Oxygen/Nitrogen Plant Components

Advanced operation and maintenance of oxygen/nitrogen plant components and support equipment; includes prime movers, air compressors, air-purification systems, refrigeration systems, air separator systems, cryotainers, gas storage cylinders. Purity testing and quality control.

HAR 2107 1.5-Ton Oxygen/Nitrogen Plant Operation

Principles of plant operation; includes concepts of flow controls and inspections and maintenance of expansion engines.

HAR 2108 Industrial/Indirect Expansion Systems

Theory of operation; determination equipment operation efficiency; maintenance and troubleshooting package liquid chiller systems, centrifugal systems, absorption air-conditioning systems, and cascade applications; and adjustment of related equipment controls.

HAR 2109 Environmental Control System Procedures

Advanced environmental control system procedures. Malfunction diagnoses and corrective measures on ventilation systems, brine chillers, and air-conditioning systems.

HAR 2110 Heating, Ventilation, Air-Conditioning System Control

Advanced operation, maintenance, and troubleshooting techniques for pneumatic controls, including their transmission system/components, electric, and electronic controls. Analysis of thermodynamics and psychometrics on equipment design. Schematics and use of calibration equipment on various system configurations.

HAR 2111 Advanced Air-Conditioning and Refrigeration

Application of physics in refrigerant; refrigeration cycle characteristic and system component applications; brazing and soldering techniques; and system maintenance procedures.

Hyperbaric Medicine

HBM 2300 Organization of Clinical Hyperbaric Medical Facility

Management of clinical hyperbaric team and planning and analysis of budgetary and manpower requirements for hyperbaric chamber operations.

HBM 2301 Hyperbaric Chamber Operations and Maintenance

Hyperbaric chamber design, operation, and maintenance and facility safety codes.

HBM 2302 Clinical Research

Protocol and techniques of data collection in clinical investigations of both animal and human subjects; use of tissue oxygen measuring equipment.

HBM 2303 Supervised Clinical Practicum

Hyperbaric chamber procedures accomplished under supervision of a physician and instructor; patient assessment, scheduling, and treatment; wound management; operation of monitoring equipment.

HBM 2304 Hyperbaric Training for Health Care Technicians

Physiological problems associated with diving and decompression procedures. Management and treatment of decompression sickness; arterial gas embolism; management of gas gangrene, carbon monoxide poisoning, and disorders treated with hyperbaric therapy; and hyperbaric chamber operation and safety procedures.

Heavy Equipment Operation

HEO 1513 Maintenance Equipment Principles, Servicing, and Operation

Operation, inspection, and servicing of various types of heavy equipment. Includes snow and ice control methods, snow removal equipment, and welding procedures and equipment.

HEO 2501 Advanced Construction Equipment Operation and Servicing

Operation and maintenance of various types of construction equipment to include crawler tractors, graders, cranes, scrapers, dump trucks, and loaders.

HEO 2502 Soil Conditioning and Surface Compaction

Advanced understanding of soil classification, compact conditioning requirements, roller operation, water distribution, rotary tiller operation, and related mathematical calculations.

Applied History

HIS 1501 Introduction to Air Force Unit History

Comprehension of Air Force history; includes development of history program, qualifications and duties of unit historian, historical concepts and techniques, nature and source of historical materials, and application of historical methodology to unit historian program.

HIS 1502 Methods of Historical Research

Principles and methods of historical research and organization of historical materials. Includes finding research sources, evaluation of documents; selection, use, and maintenance of supporting documents; conducting oral interviews; and writing historical narratives.

HIS 1503 Independent Research and Historical Writing

Techniques of independent research for conducting oral interviews and historical writing; includes preparation of outline, footnotes, and bibliography, and writing narrative and abstract.

Histologic Technology

HIT 2301 Histologic Technology Laboratory Practicum

Histochemistry; specimen processing techniques such as fixation, dehydration, embedding, sectioning, decalcification, microincineration, mounting, and routine special staining; preparation of reports and maintenance of records; preservation and shipment of pathologic materials; ethics; and morgue duties.

HIT 2302 Histopathology Procedures

Introduction to histopathology, laboratory/environmental safety, mission, organizational structure, and patient/professional relations. Includes publications, administration, medical material procedures, medical terminology, and laboratory calculations.

HIT 2303 Histologic Specimens and Slide Processing

Principles and techniques of using microtome and cryostat and of sectioning, staining, and mounting slides. Includes fixation, decalcification, tissue dehydration, and embedding.

HIT 2304 Autopsy

Identification of major organ groups and techniques for performing autopsies.

HIT 2305 Histologic Practicum

Practical application in identifying microscopic tissue types and performing administrative procedures, tissue processing, microtomy, decalcification, autopsies, gross surgical procedures, and specimen filing.

Health Services Administration

HSA 1305 Health Care Management

Introduction to medical computer systems, Medical Service Account, documentation, and communications management; includes publications and forms management, collection of fees, preparation of vouchers, medical expense and performance reporting system, report of patients, and typed communications.

HSA 1306 Patient Administration

Introduction to interpersonal relations, admission and disposition of patients, maintenance of clinical and medical treatment records, release of medical information, eligibility for medical care, quality assurance/risk management, and medical terminology.

HSA 2001 Resource and Information Management

Operation and function of resource management office. Includes analysis of medical manpower standards, management of Medical Expense and Performance Reporting System, Quality Air Force procedures, methods improvement, correspondence management, report of patients, and controls and procedures for patient valuables.

HSA 2002 Inpatient Administration

Inpatient administration programs. Includes death and casualty reporting, clinical records, third party collection, and diagnostic related groups; functions of Automated Quality Care Evaluation Support System, admission, and disposition; medical service account program; clinical records; correction management; and report evaluations.

HSA 2003 Outpatient Administration

Organization and function of patient administration. Includes ambulatory services, patient administration programs, and managed health care.

HSA 2004 Medical Personnel Administration

Personnel management programs and medical readiness planning. Includes communications, publications/forms management, records management, functions of medical library and responsibilities of administering medical squadron section programs.

HSA 2313 Hospital Administration

Indepth study of components of health care delivery system. Includes organization and structure; understanding concepts, processes and techniques used in health administration; and behavior theory applicable to work environment.

HSA 2315 Medical Readiness Planning

Introduction to planning, exercises, readiness training, National Disaster Medical system; status of resources and unit medical training systems.

Hotel Management

HTM 1101 Consumer Services Management

Management responsibilities and policies in functional areas of military exchange services, commissary operations, billeting operations, and linen exchange, laundry, and drycleaning operations. Includes facility utilization, merchandising, retail sales, funding, and concession operations associated with each of functional areas.